

	UAO COST ESTIMATE JULY 2012	EXPENDED TO DATE POST SETTLEMENT 04/30/2017	COST TO COMPLETE REMAINING 2017-2021	TOTAL COST AT COMPLETION IN 5 YEARS	TOTAL COST AT COMPLETION WITH CONTINGENCIES	% Contingency	Cost to complete with contingency	NOTES
Project Complete in 5 Years								
MassDEP Funding		\$ 600,000	\$ 1,000,000	\$ 1,600,000	\$ 1,600,000	0%	\$ 1,000,000	2014-2021 - ETD for 3 years - Needs verification from 3/9/17 meeting - based on EPA comment
USACE Funding		\$ 3,900,000	\$ 8,300,000	\$ 12,200,000	\$ 13,420,000	10%	\$ 9,130,000	Per Corps - \$3.9M (2014-2016), 2.5M (2017-2018) \$1.1M/yr (2019 - 2021)
Pro-Serv Contract (WGM/Monit)		\$ 7,500,000	\$ 12,500,000	\$ 20,000,000	\$ 22,000,000	10%	\$ 13,750,000	assumes \$2.5M/yr - cost provided by Corps
Intertidal	\$ 78,400,763						\$ -	
UH Intertidal		\$ -	\$ 39,564,088	\$ 39,564,088	\$ 47,476,906	20%	\$ 47,476,906	Assume work start in 3/18 and is fully funded and east and west sides done simultaneously, totaled using below two items
Eastern Shoreline			\$ 30,844,140					Costs based upon engineers estimate \$878/yard, incl excavation, restoration, T&D - see backup
Western Shoreline			\$ 8,719,948					Costs based upon engineers estimate \$604/yard, incl excavation, restoration, T&D - see backup
Parcel 265		\$ 2,229,750		\$ 2,229,750	\$ 2,229,750	0%	\$ -	Not included in UAO estimate
PMC		\$ 6,194,045	\$ 1,131,014	\$ 7,325,060	\$ 7,691,313	5%	\$ 1,187,565	UAO included this with intertidal volume. CTC includes SES, T&D, restoration, demob
LH			\$ 201,940	\$ 201,940	\$ 242,328	20%	\$ 242,328	Assumes 230 cu yds from Miguel property only
BB			\$ 667,280	\$ 667,280	\$ 734,008	10%	\$ 734,008	Assumes 760 cubic yards @ \$878/yard
Marsh Island	\$ 3,380,452		\$ 2,282,220	\$ 2,282,220	\$ 2,510,442	10%	\$ 2,510,442	Cost from RAC TO#3 negotiated proposal June 30 2017 - less management time - needs to go to TO#2, part of fixed
Aerovox							\$ -	
Aerovox Interim Cap		\$ -	\$ 4,800,000	\$ 4,800,000	\$ 6,240,000	30%	\$ 6,240,000	Assumed 3 ft carbon sand cover (per Corps direction). Temporary solution does not complete final remedy
Interim Cap LTM			\$ 750,000	\$ 750,000	\$ 900,000	20%	\$ 900,000	Assumed annual benthic and sampling of cover and reporting. No replacement costs
Cell 1	\$ 23,958,630						\$ -	
Cell 1 Interim Remedy			\$ 1,000,000	\$ 1,000,000	\$ 1,200,000	20%	\$ 1,200,000	
Full Demob	\$ 7,977,325	\$ -	\$ 5,785,460	\$ 5,785,460	\$ 7,810,370	35%	\$ 7,810,370	CTC from May 2016 Jacobs proposal. Contingency based upon undefined future status and necessary improvement of Areas C and D.
Dredge & Fill LHCC	\$ 39,838,604			\$ -		0%	\$ -	
Construct CAD Cell		\$ 9,563,000	\$ -	\$ 9,563,000	\$ 9,563,000	0%	\$ -	UAO costs for all work related to CAD Cell, less the \$11.3M from EPA HQ (need to verify if paid back)
Dredge and Fill LHCC - Jacobs		\$ 14,155,772		\$ 14,155,772	\$ 14,155,772	0%	\$ -	complete
Pre-BV - UH & LH to LHCC Mechanical - Jacobs		\$ 4,663,907	\$ 462,280	\$ 5,126,187	\$ 5,382,496	5%	\$ 485,394	UH and LH Mech dredge - MU 25, 26, silt curtains, Moby Dick
Post BV - UH & LH to LHCC Mechanical - Jacobs			\$ 1,643,400	\$ 1,643,400	\$ 1,807,740	10%	\$ 1,807,740	One plant 120 days (existing UH CTC plus 37CAD, MU25, T&T), includes current Jacobs costs
Dredge and Fill LHCC - BV			\$ 14,915,983	\$ 14,915,983	\$ 14,915,983	0%	\$ 14,915,983	Per USACE Email (3/16/17) changed from \$18M to \$17M. Fixed Cost Contract estimate
Survey Contract - BV		\$ -	\$ 700,000	\$ 700,000	\$ 700,000	0%	\$ 700,000	Per USACE Email (3/16/17) changed from \$800k to \$700k. Based on award to Bryant
Between the Bridges Subdial		\$ -	\$ 6,812,274	\$ 6,812,274	\$ 7,273,501	10%	\$ 7,273,501	Negotiated and Awarded, added fee in Rev9
Dredge Cleanup Passes - Jacobs			\$ 3,083,220	\$ 3,083,220	\$ 3,391,542	10%	\$ 3,391,542	10% cleanup passes, based on BV CTC
Cap LHCC	\$ 5,780,303	\$ -	\$ 5,100,000	\$ 5,100,000	\$ 5,992,500	18%	\$ 5,992,500	Cost estimate from EPA
Hydraulic Dredging	\$ 154,456,091	\$ 51,365,786	\$ -	\$ 51,365,786	\$ 61,365,786	0%	\$ -	2014 through 2016 dredging less \$12M, PMC, Parcel 265, and fixed costs
Temporary Pipeline Rele		\$ -	\$ 1,235,659	\$ 1,235,659	\$ 1,235,659	0%	\$ 1,235,659	Negotiated and Awarded
Capping DDA		\$ -	\$ -	\$ -	\$ -	20%	\$ -	Capping of DDA cost estimated from ESD 4
Sand Cover		\$ -	\$ 2,925,000	\$ 2,925,000	\$ 3,217,500	10%	\$ 3,217,500	This is an assumed volume of 100,000 cy, mechanical placement - ASSUMES ONLY 25% COVER USED - ORIGINALLY \$11.7 AND 12.87 W/G
LTM Restoration		\$ 580,163	\$ -	\$ 580,000	\$ 650,000	10%	\$ 550,000	Year 1 after restoration and Year 5 - Not previously included
LHCC O&M		\$ 721,587	\$ -	\$ 689,052	\$ 723,504	5%	\$ 723,504	Costs Complete is escalated UAO cost (3.5%)
Seafloor Monitoring		\$ -	\$ 579,290	\$ 579,290	\$ 579,290	0%	\$ 579,290	Costs from MassDEP
Site Wide Benthic LTM		\$ 818,703	\$ 536,021	\$ 550,000	\$ 1,086,021	5%	\$ 577,500	Cost to Complete is escalated UAO cost (3.5%), assume 1.5yr
Fixed Costs	\$ 54,927,516						\$ -	Jacobs Fixed Costs,
Project Management and Admin		\$ 6,741,999	\$ 11,369,511	\$ 18,130,510	\$ 19,943,561	10%	\$ 12,527,363	
Site Ops and Warehouse		\$ 2,759,625	\$ 4,640,326	\$ 7,399,950	\$ 8,136,845	10%	\$ 5,110,958	
Air Monitoring		\$ 1,043,884	\$ 828,838	\$ 1,872,822	\$ 2,060,105	10%	\$ 911,722	
Hybrid Dredging								
Cable Crossing			\$ 25,746,215	\$ 25,746,215	\$ 28,320,837	10%	\$ 26,320,837	Based on initial proposal for TO#4, revised - see subdial back up
SCENARIO #1								Using items subtotal above to determine gross area available for hybrid subdial dredge
SUBTOTAL	\$ 370,839,939	\$ 111,244,888		\$ 270,832,937	\$ 294,810,859		\$ 180,502,811	
SETTLEMENT AMOUNT				\$ 366,250,000	\$ 366,250,000		\$ -	
INTEREST				\$ 6,500,000	\$ 6,500,000		\$ -	EPA assumption, correct interest rates and values to be provided, per EPA \$2M in avail. Funding but not in contingency.
AVAILABLE FOR FUTURE SUBTIDAL				\$ 101,917,063	\$ 78,239,141		\$ 78,239,141	Settlement plus interest less Subtotal of work listed above.
SUBTIDAL CUBIC YARDS - HYBRID				203,289	152,513		\$ -	\$501.34 Includes Hybrid dredging, desanding, dewatering and T&D
ESTIMATED SUBTIDAL DREDGE DAYS				339	255			Assume 600 CY/Day production
SCENARIO #2								Using items subtotal above, but using area specific volumes determined using SWAC/RAL from Comprehensive Plan PLUS 4 inches over dredge
Future Subtidal Cost using HYBRID METHOD			\$ 82,947,638	\$ 82,947,638	\$ 91,132,402	10%	\$ 91,132,402	This is the sum of the subtidal areas listed below using the hybrid rate of \$501.34/yard. Additional data gap sampling is being conducted to revise these areas and potentially reduce the subtidal cost. Over dredge of 4 inches was included in the volume calculation.
Area O			\$ 14,719,593	\$ 14,719,593	\$ 16,191,552	10%	\$ 16,191,552	Includes 4 inches over dredge (29360.5)
Area N			\$ 7,020,615	\$ 7,020,615	\$ 7,722,676	10%	\$ 7,722,676	Includes 4 inches over dredge (14003.7)
Area H			\$ 8,482,171	\$ 8,482,171	\$ 9,330,389	10%	\$ 9,330,389	Includes 4 inches over dredge (16819)
Area P			\$ 3,654,217	\$ 3,654,217	\$ 4,019,639	10%	\$ 4,019,639	Includes 4 inches over dredge (7288.9)
Area R			\$ 3,463,297	\$ 3,463,297	\$ 3,842,616	10%	\$ 3,842,616	Includes 4 inches over dredge (6867.9)
Area RL			\$ 9,238,592	\$ 9,238,592	\$ 10,162,122	10%	\$ 10,162,122	Includes 4 inches over dredge (19427.2)
Area L			\$ 4,562,194	\$ 4,562,194	\$ 5,018,413	10%	\$ 5,018,413	Includes 4 inches over dredge (9100)
Area S			\$ 9,827,517	\$ 9,827,517	\$ 10,810,269	10%	\$ 10,810,269	Includes 4 inches over dredge (19602.5)
MU-22			\$ 257,488	\$ 257,488	\$ 283,237	10%	\$ 283,237	Includes 4 inches over dredge (513.6)
MU-26			\$ 2,483,137	\$ 2,483,137	\$ 2,731,451	10%	\$ 2,731,451	Includes 4 inches over dredge (4953)
MU-29			\$ 6,430,786	\$ 6,430,786	\$ 7,073,867	10%	\$ 7,073,867	Includes 4 inches over dredge (12827.2)
PMC			\$ 11,372,397	\$ 11,372,397	\$ 12,508,636	10%	\$ 12,508,636	Includes 4 inches over dredge (22684)
MU-31			\$ 1,305,941	\$ 1,305,941	\$ 1,436,535	10%	\$ 1,436,535	Includes 4 inches over dredge (2604.9)
TOTAL USING AREA SPECIFIC CALCULATIONS				\$ 353,980,875	\$ 385,643,261		\$ 385,643,261	Total Project Cost
SETTLEMENT plus Interest				\$ 372,750,000	\$ 372,750,000		\$ 372,750,000	
BALANCE				\$ 19,069,425	\$ (12,893,261)		\$ (12,893,261)	Remaining funding
SCENARIO #3								Using items subtotal above and specific area calculations using SWAC/RAL - using mechanical excavation for listed volumes to LHCC for disposal.
ASSUME AREAS TO LHCC NOT HYBRID								CALCULATED USING SPECIFIC VOLUMES LISTED ABOVE Using \$200/cyd
MU-22			\$ 102,720	\$ 102,720.00	\$ 112,992.00	10%	\$ 112,992.00	Includes 4 inches of over dredge using mechanical method to LHCC (513.6)
MU-26			\$ 990,600	\$ 990,600.00	\$ 1,089,660.00	10%	\$ 1,089,660.00	Includes 4 inches of over dredge using mechanical method to LHCC (4953)
MU-29			\$ 2,565,440	\$ 2,565,440.00	\$ 2,821,984.00	10%	\$ 2,821,984.00	Includes 4 inches of over dredge using mechanical method to LHCC (12827.2)
PMC			\$ 4,536,800	\$ 4,536,800.00	\$ 4,990,480.00	10%	\$ 4,990,480.00	Includes 4 inches of over dredge using mechanical method to LHCC (22684)
MU-31			\$ 520,960	\$ 520,960.00	\$ 573,076.00	10%	\$ 573,076.00	Includes 4 inches of over dredge using mechanical method to LHCC (2604.9)
DEDUCTION FOR CHANGE FROM HYB TO MEC				\$ 13,133,211	\$ 14,446,532			Total cubic yards to LHCC - 45582.7 After BV and cleanup passes, approximately 44,000 cubic yards available in LHCC
REVISED TOTAL PROJECT COST				\$ 340,547,364	\$ 371,196,729			Cost savings by changing disposal
SETTLEMENT plus Interest				\$ 372,750,000	\$ 372,750,000			Total
BALANCE				\$ 32,202,636	\$ 1,653,271			Remaining funding
UNFUNDED EXPENSES								
Aerovox Sediment Removal		\$ -	\$ 18,627,241	\$ 18,627,241	\$ 27,940,861	50%	\$ 27,940,861.47	
LTM Costs after 2021							\$ -	LHCC O&M, Seafloor and Benthic
Capping DDA	\$ 1,781,530	\$ -	\$ 1,781,530	\$ 1,781,530	\$ 2,137,836	20%	\$ 2,137,836.00	Included in Cells #123 Final Remedy
Cells 1, 2, 3 Final Remedy - no mixed waste			\$ 16,813,069	\$ 16,813,069	\$ 21,586,990	30%	\$ 21,586,989.70	
Cells 1, 2, 3 Final Remedy			\$ 22,969,595	\$ 22,969,595	\$ 29,860,474	30%	\$ 29,860,473.50	Includes \$1,781,530 to cap the DDA